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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/761,074

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Geert Arnout Awater

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12/29/2004

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EXAMINER

KADING, JOSHUA A

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,074

Applicant(s)

AWATER ET AL.

Examiner

Joshua Kading

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-18 and 20-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 and 20-22 is/are allowed.
- 6) ☒ Claim(s) 1-5, 7, 11-18 and 23-30 is/are rejected.
- 7) ☒ Claim(s) 11 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 11 and 14 are objected to because of the following informalities:

Claim 11, line 3 states "said control means..." There is no antecedent basis for
5 this limitation. Therefore, it is suggested that "said control means" be changed to --said
controller-- to be consistent with the claim language.

Claim 14, lines 11-13 state, "only one of said first radio system and said second
radio system transmits at any one time." The word "transmits" should be changed to --
transmitting--. Appropriate correction is required.

10

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

15

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negated by the manner in which the invention was made.

20

Claims 1-5, 7, 11-18, and 23-30 rejected under 35 U.S.C. 103(a) as being
unpatentable over Vaisanen et al. (U.S. Patent 6,560,443 B1) in view of Lindenmeier et
al. (U.S. Patent 4,876,743).

25

Regarding claims 1, 14, and 26, Vaisanen discloses a device (claim 1), a method
(claim 14), and communication apparatus (claim 26) comprising "a first radio system

operating at a first range of frequencies (figure 1, element 12 and connecting items operate as specified in col. 6, lines 54-66) and a second radio system operating at a second range of frequencies (figure 2, element 11 and connecting items operate as specified in col. 6, lines 54-55); a controller adapted to control said first radio system and said second radio system such that only one of said first radio system and said second radio system may transmit at any one time (figure 1, element 14 and its function read in col. 6, lines 66-67 and col. 7, lines 1-5); a multiplexer adapted to time multiplex transmissions from said first radio system and said second radio system (figure 1, element SW2 implicitly acts as to time multiplex transmissions by permitting only one system to transmit at a given time and as such creates, in effect, a time division transmission of data from both systems); wherein at least a part of said first range of frequencies and said second range of frequencies overlap (col. 6, lines 54-55)."

Although Vaisanen does not explicitly disclose that the switch acts as a multiplexer by time multiplexing transmissions, Lindenmeier shows that an element identical to that in Vaisanen performs the multiplexing of transmissions from different signals (figure 4, element 18). It therefore, would have been obvious to one of ordinary skill in the art to recognize that the function of the switch in Vaisanen and the multiplexer of Lindenmeier function in the same way by only allowing on signal to transmit at a time, effectively creating a time multiplexed system.

It would have been obvious to one with ordinary skill in the art at the time of invention to multiplex the signals from different systems for the purpose of allowing only

one system to transmit at any given time. The motivation for not allowing both systems to transmit at the same time, is to prevent damage to the system (Vaisanen, col. 6, lines 49-53).

5 Regarding claim 7, Vaisanen and Lindenmeier disclose the device of claim 1. Although Vaisanen and Lindenmeier do not explicitly disclose the IEEE 802.11 and Bluetooth data transmitted in Bluetooth time slots, it would have been obvious to one of ordinary skill in the art at the time of invention to have Bluetooth time slots as a matter of design choice. The reason being that the system, as described in Vaisanen and
10 Lindenmeier, already time multiplexes the data into time slots. Whether or not the time slots are Bluetooth is a consideration/preference left to the designer. The motivation for using time multiplexed slots for transmitting the IEEE 802.11 data and the Bluetooth data is the same as that in claim 1.

15 Regarding claims 2, 15, and 27, Vaisanen and Lindenmeier disclose the device of claim 1, the method of claim 14, and the apparatus of claim 26. However, Lindenmeier lacks what Vaisanen further discloses, "said first radio system is a Bluetooth system and said second radio system is an IEEE 802.11 system (col. 6, lines 43 and 65)." It would have been obvious to one with ordinary skill in the art to have the
20 systems consist of Bluetooth and IEEE 802.11 for the same reasons and motivation as in claims 1, 14, and 26.

Regarding claims 5, 18, and 30, Vaisanen and Lindenmeier disclose the device of claim 2, the method of claim 15, and the apparatus of claim 26. However, Lindenmeier lacks what Vaisanen further discloses, "a switch adapted to switch on and off said first and second radio systems (figure 1, element SW2 where SW2 has control
5 over what is transmitted or received (thus on or off) from its antenna)." It would have been obvious to one with ordinary skill in the art to have a switch adapted to control the systems for the same reasons and motivation as in claims 2, 15, and 26.

Regarding claims 11 and 23, Vaisanen and Lindenmeier disclose the device of
10 claim 2 and the method of claim 15. However, Lindenmeier lacks what Vaisanen further discloses, "said controller prevents transmission of IEEE 802.11 packets during a Bluetooth ACL packet transmission (col. 5, lines 32-34)." It would have been obvious to one with ordinary skill in the art to prevent transmissions of 802.11 packets while Bluetooth packets are transmitting for the same reasons and motivation as in claims 2
15 and 15.

Regarding claims 12 and 24, Vaisanen and Lindenmeier disclose the device of claim 2 and the method of claim 15. However, Lindenmeier lacks what Vaisanen further discloses, "said controller prevents transmission of Bluetooth ACL packets during an
20 IEEE 802.11 packet transmission (col. 5, lines 32-34)." It would have been obvious to one with ordinary skill in the art to prevent transmissions of Bluetooth packets while

802.11 packets are transmitting for the same reasons and motivation as in claims 2 and 15.

Regarding claims 13 and 25, Vaisanen and Lindenmeier disclose the device of claim 12 and the method of claim 24. However, Lindenmeier lacks what Vaisanen further discloses, "said first radio system and said second radio system share a common physical layer (figure 1, element SW1)." It would have been obvious to one with ordinary skill in the art to include the common physical layer for the same reasons and motivation as in claims 12 and 24.

Regarding claims 3, 16, and 28, Vaisanen and Lindenmeier disclose the device of claim 1, the method of claim 14, and the apparatus of claim 26. However, Lindenmeier lacks what Vaisanen further discloses, "when said first radio system is transmitting said second radio system cannot receive or transmit (col. 5, lines 32-34)." It would have been obvious to one with ordinary skill in the art to not allow both systems to transmit when the other is transmitting for the same reasons and motivation as in claims 1, 14, and 26.

Regarding claims 4, 17, and 29, Vaisanen and Lindenmeier disclose the device of claim 3, the method of claim 16, and the apparatus of claim 28. However, Lindenmeier lacks what Vaisanen further discloses, "when said first radio system is receiving said second radio system cannot receive or transmit (col. 5, lines 32-34; figure

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1 further supports the notion that it is possible for only one system to transmit/receive at a time by the fact that SW1 and SW2 are in their current positions, thus only allowing WLAN to transmit/receive and if SW2 were to switch to the BT system, then only the BT system would be allowed to transmit/receive)." It would have been obvious to one with
5 ordinary skill in the art to not allow both systems to transmit while one is receiving for the same reasons and motivation as in claims 4, 17, and 28.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject
10 matter: As indicated in the previous Office Action, claims 8-10 and 20-22 were allowable if written in independent form. As per applicant's amendment filed 3 August 2004, claims 8 and 20 are allowable because the prior art of record fails to teach, in combination with the other claim's limitations, "wherein said Bluetooth transmissions are through a single HV2 SCO link connection, and said IEEE 802.11 transmissions being
15 in two time-slots in every four," claims 9 and 21 are allowable because the prior art of record fails to teach, in combination with the other claim's limitations, "wherein said Bluetooth transmissions are through a single HV3 SCO link connection, and said IEEE 802.11 transmissions being in four time-slots in every six," and claims 10 and 22 are allowable because the prior art of record fails to teach, in combination with the other
20 claim's limitations, "wherein said Bluetooth transmissions are through a single HV3 SCO link connection, and said IEEE 802.11 transmissions being in two time-slots in every six."

Response to Arguments

Applicant's arguments, see REMARKS, page 12, paragraph 1, filed 3 August 2004, with respect to the rejection(s) of claim(s) 6, 7, and 19 under 35 U.S.C. 103 have
5 been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of a better understanding of applicant's invention and newly found prior art.

Applicant's arguments filed 3 August 2004 have been fully considered but they
10 are not persuasive. Applicant argues that Vaisanen does not disclose a time multiplexed system and that if Vaisanen did, it would not be possible because the system would be damaged, and that Vaisanen uses two antennas (REMARKS, page 12, paragraph 3). The examiner respectfully disagrees.

As explained above, and through the use of Lindenmeier, Vaisanen does in fact
15 implicitly disclose a functionally equivalent time multiplexed system. Applicant asserts that if both systems (BT and WLAN) were to transmit simultaneously, there would be damage to the transceivers. This is correct, but this is not what a time multiplexed system is. The switch (SW2 of figure 1) of Vaisanen acts as a functional equivalent to a time multiplexer by only allowing one system to transmit at a time, effectively putting
20 that system's data transmission in its own time slot. When SW2 switches to the other system, it has effectively created a new time slot for the new system's data

transmission. This is how Vaisanen implicitly discloses a time multiplexed system and avoids damaging the transceiver.

Lastly, applicant's claims make no mention of a number of antennas and therefore Vaisanen in view of Lindenmeier reads on applicant's invention as claimed.

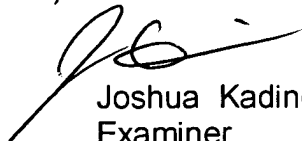
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (571) 272-3070. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

20


Joshua Kading
Examiner
Art Unit 2661

December 16, 2004


BOB PHUNKULH
PRIMARY EXAMINER